

V.—*Description of a New Species of Ornithorhynchus.*

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(*Read 22d January 1825.*)

THE labours of the anatomist, important as they are, and high as is the rank which they occupy in the scale of science, are, in many cases, lost to the scrupulous and intelligent naturalist, from the circumstance that the animals to which they refer have not been described with sufficient precision, to enable him to determine with certainty the species to which they belong. This has been particularly the case with the *Ornithorhynchus*: from the vagueness of the notices given with respect to the more obvious, though not less characteristic, and not less natural, features, of the species or varieties of this genus dissected by anatomists, we can only be certain that they have described *some* particular species or variety. The fact appears to be, that anatomists, like other people, have pretty frequently a notion that nothing is, or can be, so very important as their own pursuits; they forget that the general form, the covering, the claws, the mouth, nostrils and ears,—in short,

whatever of the animal is external and obvious, are just as much a part of its constitution, as the intestines, muscles, blood-vessels, or whatever of it is most internal and recondite; and that, in fact, without a precise knowledge of the former, there can be no certainty with regard to the latter. Considered as scientific knowledge, the possession of mere external characters, without any thing else, is as despicable as that of mere anatomical characters, without any thing regarding external appearance, manners, habits, haunts, and uses. To produce any thing like perfect delineations of natural objects, it is necessary to attend to *all* the circumstances of organization; and although anatomy is useful, as tending to this end, external characters are not less so; nor can the mode of life, which results from the conformation, be considered as an unessential part of the history of animals. Where anatomy and natural history have gone hand in hand, they have produced such men as Cuvier, Blumenbach, Lamarck, Blainville,—who, it may be said, are great anatomists, because great naturalists, and great naturalists, because great anatomists. But leaving to those who may have dissected Ornithorynchi, to inform us what species or varieties they have operated upon, I proceed to describe a new species, larger and somewhat more remarkable than that hitherto known.

### ORNITHORYNCHUS CRISPUS, *Greater Duck-bill.*

SPECIFIC CHARACTER.—Ornithorynchus pilis universis magis minusve apice curvatis, caudalibus superioribus geniculatim reflexis, implexis.

DESCRIPTION. Beak very broad, complanate, dilatatorundate at the end. Nostrils small, round, subterminal,

approximate, with an inner membranous rim. Claws of fore-feet straight, slightly recurvate, long, subdepressed, rounded at the end; membrane longer than the claws by half an inch; claws of hind-feet terminal, compressed, sharpish, acute at the edges, obliquely curved, the outer outwards, the rest inwards. The spur curved, conical, strong, bluntish, with the orifice almost terminal, and on the convex side of the curve. Tail broadly spatulate.

Hair consisting of two kinds, the one very soft, fine and thick, and of moderate length; the other, which forms the surface of the pile, longer, and in quality as follows. On the upper part of the head, very fine until at the extremity, where it is much enlarged and flattened, so as to present a surface of stiffish, compact, hard pile; longer around the margin of the beak, and but slightly enlarged at the end. Along the back it is very fine, excepting at the end, where it is enlarged and flattened, and acuminate, the tip curved backwards; on the sides longer, the flattened part elongated, acuminate and more curved, so as to feel rough. The middle of the throat, and two longitudinal bands on the breast and belly, without any of this second sort of hair. On the legs and feet it is very short, entirely flattened and blunted, and compressed. On the upper part of the tail, the fine hairs are very short, curled and ravelled; the others longish, enlarged from the commencement, bent about the middle at an open angle, and blended and matted together in all directions, being very stiff and harsh to the feel. Under surface of tail rubbed bare, excepting at the margin, where the hairs are flat and stiff, and worn short.

Beaks and webs dark-brown, claws paler. The fine hair is greyish-blue on the upper parts, bluish-grey tinged with yellow on the lower, excepting from the root of the tail to the middle of the breast, where it is pale-chesnut. Except-

ing on the belly, the colours of the fur are those of the thick hairs, and are as follow: upper parts in general dark greenish-brown; upper part of the head tinged with yellow; a yellowish-white spot before each eye; sides and tail lighter, being of a yellowish-grey. Under part of each of the limbs, and perineal region, of a vinous colour, approaching to chesnut.

The dimensions are as follow:

Beak from the frontal margin to the end,	-	2½ inches.
Breadth of the beak near the end,	-	1⅕
Height of frontal margin,	-	5½
Length of the spur,	-	5½
Total length,	-	23

The above description is from a specimen in the Museum of the University of Edinburgh, presented by Alexander Hunter, Esq. writer to the Signet, and is said to be from Van Diemen's Land.

A specimen in the same extensive and interesting collection, also from Van Diemen's Land, and presented by Dr Burnet, one of the Medical Commissioners of the Navy, is of the following description. Its length is 21 inches, and it is proportionally smaller in all its parts. It agrees with the above in all essential particulars, the colours, however, somewhat paler; the hairs of the tail are equally matted, but longer; the under surface of the tail is entirely covered with very short, flat, adpressed hairs; the spurs much more slender, acute, and of a pale horn-colour; the vinous or chesnut-coloured spots of the under parts more distinct. This individual is probably a younger one, as is indicated by the comparative fineness of the pile, the slender spur, and inferior size; and had newly received its pile, as is shewn by the under surface of the tail being covered, that

part having been rubbed bare by use in the former specimen.

Another individual in the Museum, although not more than 16.5 inches long, I am inclined to consider as of the same species, because it agrees with the others in all essential respects. The hairs present the same forms, and the colours equally correspond. The hair of the tail is less matted, but it is still distinctly geniculate. This individual is a female, as is indicated by the absence of spurs; and its juvenility is pointed out by the usual characters.

There is another interesting specimen in the Museum, which was presented by Sir James Macgrigor. The length of this individual is 25 inches, but, being apparently somewhat elongated in the course of stuffing, it may be stated at 24. The characters are in general as in the one first described, but the colours differ a little. The general tint of the upper parts is deeper, that of the under parts light-grey, the tips of the longer hairs being whitish, the under neck and spot before the eye greyish-white. The under surface of the tail is nearly bare. The dimensions of this individual are as follow :

Beak from the frontal margin to the end,	-	2½ inches.
Breadth near the end,	- - - -	1¼
Height of frontal margin,	- - - -	0½
Length of tail,	- - - - -	5½
Length of spur,	- - - - -	-
Total length,	- - - - -	25

In this individual, the hairs, and especially those of the under surface, are more decidedly curved than even in that first described, and the feel of the pile is in consequence more rough. It may probably be a very old individual.

It will be seen, on comparing this description with those of the species hitherto known, that it differs specifically from all of them. It were needless to institute comparisons here, as any one who may feel interested in the subject can easily make them for himself. I shall only observe, that the ordinary length of the usually described species is about 14 or 15 inches, and that the *Ornithorynchus fuscus* of Desmarest and Cuvier is probably a young animal of the present; while there is another *Ornithorynchus* with smooth hair, of the same size as their *fuscus*, and of nearly the same colour as the *O. crispus*, which, together with his *rufus*, I consider as forming only one species, the individuals of which vary in colour, and which I would designate by the name of *Ornithorynchus lævis*, and characterize as follows:—*Ornithorynchus pilis universis rectis, caudalibus superioribus elongatis liberis.*

EDINBURGH, }  
17th August 1824. }

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Since the above paper was read to the Society, I have found reason to think, that the large individuals described in it are old, or, at least, adult specimens; and that all the other alleged species, characterized by a difference of colour in the hair, or other circumstances, are merely varieties dependent upon differences of age, sex, or locality. If this opinion be correct, the *Ornithorynchus paradoxus* of Blumenbach is here described, for the first time, in its perfect state.

18th September 1827. }  
EDINBURGH. }